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TITLE: POWER AMPLIFIER FOR MUSICAL INSTRUMENT

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ABSTRACT:

**PURPOSE:** To effectively output maximum electric power against load variation by detecting a difference between signal components which correspond to the amplification factors of an input and an output signal, and then supplying a power voltage which corresponds to load impedance variation to an amplifier.

**CONSTITUTION:** An amplifier A1 which uses a couple of positive and negative power sources +B and -B is normally powered up by a power source device PS through overcurrent detectors CD and CD', and outputs an output signal Vo, obtained by multiplying an input signal Vi by a factor A, to a load RL. The signal Vo is multiplied by a factor 1/A through resistnce R1 and R2 to obtain a signal Vo', and these signal Vo' and signal Vi are supplied to an error detector A2; and its difference detection output is supplied to a gate device G1, whose output is supplied to a control signal generator CG. Thus, voltages +B1 and -B1 are supplied for amplification in a band where load impedance is low, and high voltage +B and -B2 are supplied, corresponding to the waveform clipping of the voltage Vo, through voltage controllers G2 and G2' for amplification in a band where the load impedance is increased.

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